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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/662,850	09/15/2000	Oskar Lamla	1748/49133	2145

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EXAMINER

RUDNICK, DOUGLAS W

ART UNIT PAPER NUMBER

1764

DATE MAILED: 01/15/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/662,850

Applicant(s)

LAMLA ET AL.

Examiner

Douglas W. Rudnick

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 12-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 12-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 4, 12-15, and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balling et al. (US 5397545) in view of Pratt et al. (US 6132895) and Balachandran et al. (US 5723074)

With respect to claims 1 and 17:

Balling et al. discloses the invention substantially as claimed. Balling et al. discloses a stack with a plurality of layers (Fig. 2) that form a lateral edge surface, the layers comprising catalytic material (Col. 4, lines 26-27), and the layers having channels (Fig. 2, 34). However, Balling is silent to a plurality of end plates where at least one of

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the end plates has a supply or discharge line and to layers having an edge seal. Balling is also silent to the catalyst material of the layers being comprised of a gas permeable material.

Pratt et al. teaches a plurality of end plates (Fig. 5, 560) where at least one of the end plates has a supply or discharge line (Fig. 5, 577 and 575), layers have distribution and collection channels (315 and 415), and layers having an edge seal (Col. 6, lines 5-6) for the purpose of introducing the fuel and providing a gas-tight cell, respectively.

It would have been obvious to one ordinary skill in the art at the time Applicants' invention was made to have provided a plurality of end plates where at least one of the end plates has a supply or discharge line and layers having an edge seal in Balling et al. in order to, respectively, introduce fuel and provide a gas-tight cell as taught by Pratt et al.

Balachandran et al. teaches the catalyst material of the layers are comprised of a gas permeable material (Col. 15, lines 46-63) for the purpose of allowing the gas to diffuse through the layers.

It would have been obvious to one of ordinary skill in the art at the time applicants' invention was made to have provided the catalyst material of the layers being made out of a gas permeable material in Balling et al. in order to allow the gas to diffuse through the layers as taught by Balachandran et al.

With respect to claim 4:

Balling et al. discloses the invention substantially as claimed. However, Balling et al. is silent to the support structure for the catalyst material being metallic. Pratt et al. teaches a metallic support structure (Col. 4, lines 4-10) for the purpose of the structure having good conductivity.

It would have been obvious to one of ordinary skill in the art at the time Applicants' invention was made to have provided a metallic support structure in Balling et al. in order to have good conductivity as taught by Pratt et al.

With respect to claims 12-15 and 18-21:

Balling et al. discloses the invention substantially as claimed. However, Balling is silent to a seal and further detail on the seal. Pratt et al. teaches a seal that is on the surface of the catalytic layers, that is admixed with another material, and that forms an impermeable seal on the surface of the stack (Col. 6, lines 5-16) for the purpose of providing a gas tight cell.

4. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balling et al. in view of Pratt et al. and Balachandran et al., as applied to claim 1, and Farooque et al. (US 6200696).

With respect to claim 2 and 3:

The modified apparatus of Balling et al. discloses the invention substantially as claimed. However, the modified apparatus of Balling et al. is silent to a gas-tight sheet

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that surrounds the layers and has at least one opening and comprises a catalyst.

Farooque et al. teaches a gas-tight sheet that surrounds the layers (Col. 4, lines 19-22) and has at least one opening (Fig. 1B) and comprises a catalyst (claim 28) for the purpose of containing leaking fuel.

It would have been obvious to one of ordinary skill in the art at the time Applicants' invention was made to have provided a gas-tight sheet that surrounds the layers and has at least one opening and comprises a catalyst in the modified apparatus of Balling et al. in order to contain leaking fuel as taught by Farooque et al.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Balling et al. in view of Pratt et al. and Balachandran et al., as applied to the claims above, and Lee et al. (US 6168703).

The modified apparatus of Balling et al. discloses the invention substantially as claimed. However, the modified apparatus of Balling et al. is silent to dendritic copper being used for the support structure. Lee et al. teaches the use of dendritic copper (Col. 1, lines 34-37) for the purpose of preventing thermal degradation.

It would have been obvious to one of ordinary skill in the art at the time Applicants' invention was made to have provided dendritic copper being used for the support structure in the modified apparatus of Balling et al. in order to prevent thermal degradation as taught by Lee et al.

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6. Claims 16 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balling et al. in view of Pratt et al. and Balachandran et al., as applied to claims 1 and 17, and Tsuji et al. (US 4425315).

With respect to claims 16 and 22:

The modified apparatus of Balling et al. discloses the invention substantially as claimed. However, the modified apparatus of Balling et al. is silent to the edge seal comprising a solder material. Tsuji et al. teaches that the air permeable part of a catalytic material on a chamber may be sealed with soldering material (Abstract) for the purpose of creating an air tight seal.

It would have been obvious to one of ordinary skill in the art at the time Applicants' invention was made to have provided an edge seal comprising a solder material in the modified apparatus of Balling et al. in order to create an air tight seal as taught by Tsuji et al.

Response to Arguments

7. Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

8. Applicant points out that the prior art used does not disclose a gas permeable catalyst material. This limitation was introduced into the claims in the amendment filed

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on 11/6/02. Therefore, it was not included in the rejection filed 5/6/02. All of the new limitations are addressed in the rejection above.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5456889.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas W. Rudnick whose telephone number is 703-

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305-3141. The examiner can normally be reached on M-F (8:30 am - 5:30 pm) alt. fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Douglas W. Rudnick
Art Unit 1764

dwr
January 8, 2003



Glenn Caldarola
Supervisory Patent Examiner
Technology Center 1700